

SEQUENCE LISTING

<110> Ruvkun, Gary
Kimura, Koutarou
Patterson, Garth
Ogg, Scott
Paradis, Suzanne
Tissenbaum, Heidi
Morris, Jason
Kowweek, Allison

<120> THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
IMPAIRED GLUCOSE TOLERANCE CONDITIONS

<130> 00786/351005

<150> US 08/857,076

<151> 2000-08-03

<150> US 08/857,076

<151> 1997-05-15

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Tyr	Leu	Arg	Ser	Lys	Arg	Glu	Asp	Glu	Val	Phe	Asn	Glu	Thr	Asp	Cys	
			1220					1225					1230			
Asn	Phe	Phe	Asp	Ile	Ile	Pro	Arg	Asp	Lys	Phe	His	Glu	Trp	Ala	Ala	
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Gln	Ile	Cys	Asp	Gly	Met	Ala	Tyr	Leu	Glu	Ser	Leu	Lys	Phe	Cys	His	
	1250					1255					1260					
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Lys	Ile	Gly	Asp	Phe	Gly	Met	Ala	Arg	Asp	Leu	Phe	Tyr	His	Asp	Tyr	
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Tyr	Lys	Pro	Ser	Gly	Lys	Arg	Met	Met	Pro	Val	Arg	Trp	Met	Ser	Pro	
			1300					1305					1310			
Glu	Ser	Leu	Lys	Asp	Gly	Lys	Phe	Asp	Ser	Lys	Ser	Asp	Val	Trp	Ser	
	1315						1320					1325				
Phe	Gly	Val	Val	Leu	Tyr	Glu	Met	Val	Thr	Leu	Gly	Ala	Gln	Pro	Tyr	
	1330					1335					1340					
Ile	Gly	Leu	Ser	Asn	Asp	Glu	Val	Leu	Asn	Tyr	Ile	Gly	Met	Ala	Arg	
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Lys	Val	Ile	Lys	Lys	Pro	Glu	Cys	Cys	Glu	Asn	Tyr	Trp	Tyr	Lys	Val	
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Met	Lys	Met	Cys	Trp	Arg	Tyr	Ser	Pro	Arg	Asp	Arg	Pro	Thr	Phe	Leu	
			1380					1385					1390			
Gln	Leu	Val	His	Leu	Leu	Ala	Ala	Glu	Ala	Ser	Pro	Glu	Phe	Arg	Asp	
	1395					1400						1405				
Leu	Ser	Phe	Val	Leu	Thr	Asp	Asn	Gln	Met	Ile	Leu	Asp	Asp	Ser	Glu	
	1410					1415					1420					
Ala	Leu	Asp	Leu	Asp	Asp	Ile	Asp	Asp	Thr	Asp	Met	Asn	Asp	Gln	Val	
1425					1430					1435					144	
Val	Glu	Val	Ala	Pro	Asp	Val	Glu	Asn	Val	Glu	Val	Gln	Ser	Asp	Ser	
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Glu	Arg	Arg	Asn	Thr	Asp	Ser	Ile	Pro	Leu	Lys	Gln	Phe	Lys	Thr	Ile	
			1460					1465					1470			
Pro	Pro	Ile	Asn	Ala	Thr	Thr	Ser	His	Ser	Thr	Ile	Ser	Ile	Asp	Glu	
		1475					1480					1485				
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	1490					1495					1500					
Ala	Leu	Met	Asn	His	Ser	Gly	Gly	Pro	Ser	Asp	Ala	Glu	Val	Arg	Thr	
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Tyr	Ala	Gly	Asp	Gly	Asp	Tyr	Val	Glu	Arg	Asp	Val	Arg	Glu	Asn	Asp	
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Val	Pro	Thr	Arg	Arg	Asn	Thr	Gly	Ala	Ser	Thr	Ser	Ser	Tyr	Thr	Gly	
			1540					1545					1550			
Gly	Gly	Pro	Tyr	Cys	Leu	Thr	Asn	Arg	Gly	Gly	Ser</					

1665 1670 1675 168
 Thr Glu Pro Lys Asn Tyr Arg Asn Asn Gly Ser Pro Ser Arg Asn Gly
 1685 1690 1695
 Asn Ser Arg Asp Ile Phe Asn Gly Arg Ser Ala Phe Gly Glu Asn Glu
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 His Leu Ile Glu Asp Asn Glu His His Pro Leu Val
 1715 1720

<210> 13
 <211> 139
 <212> PRT
 <213> Caenorhabditis elegans

<400> 13
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 35 40 45
 Phe Asn Ala Leu Asp Glu Pro Ala Phe His Lys Glu Thr Glu Ile Phe
 50 55 60
 Glu Thr Arg Met Leu Arg His Pro Asn Val Leu Arg Tyr Ile Gly Ser
 65 70 75 80
 Asp Arg Val Asp Thr Gly Phe Val Thr Glu Leu Trp Leu Val Thr Glu
 85 90 95
 Tyr His Pro Ser Gly Ser Leu His Asp Phe Leu Leu Glu Asn Thr Val
 100 105 110
 Asn Ile Glu Thr Tyr Tyr Asn Leu Met Arg Ser Thr Ala Ser Gly Leu
 115 120 125
 Ala Phe Leu His Asn Gln Ile Gly Gly Ser Lys
 130 135

<210> 14
 <211> 62
 <212> PRT
 <213> Caenorhabditis elegans

<400> 14
 Glu Asp Ala Ala Ser Asp Ile Ile Ala Asn Glu Asn Tyr Lys Cys Gly
 1 5 10 15
 Thr Val Arg Tyr Leu Ala Pro Glu Ile Leu Asn Ser Thr Met Gln Phe
 20 25 30
 Thr Val Phe Glu Ser Tyr Gln Cys Ala Asp Val Tyr Ser Phe Ser Leu
 35 40 45
 Val Met Trp Glu Thr Leu Cys Arg Cys Glu Asp Gly Asp Val
 50 55 60

<210> 15
 <211> 31
 <212> PRT
 <213> Caenorhabditis elegans

<400> 15
 Lys Pro Ala Met Ala His Arg Asp Ile Lys Ser Lys Asn Ile Met Val

Tracheo"esophageo

1 5 10 15
 Lys Asn Asp Leu Thr Cys Ala Ile Gly Asp Leu Gly Leu Ser Leu
 20 25 30

<210> 16
 <211> 72
 <212> PRT
 <213> Caenorhabditis elegans

<400> 16
 Ile Pro Tyr Ile Glu Trp Thr Asp Arg Asp Pro Gln Asp Ala Gln Met
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 20 25 30
 Trp Lys Asp His Pro Glu Met Lys His Ile Met Glu Ile Ile Lys Thr
 35 40 45
 Cys Trp Asn Gly Asn Pro Ser Ala Arg Phe Thr Ser Tyr Ile Cys Arg
 50 55 60
 Lys Arg Met Asp Glu Arg Gln Gln
 65 70

<210> 17
 <211> 150
 <212> PRT
 <213> Caenorhabditis elegans

<400> 17
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 20 25 30
 Met Leu Thr Glu Asp Gly Lys Tyr Val His Ile Asp Phe Gly His Ile
 35 40 45
 Leu Gly His Gly Lys Thr Lys Leu Gly Ile Gln Arg Asp Arg Gln Pro
 50 55 60
 Phe Ile Leu Thr Glu His Phe Met Thr Val Ile Arg Ser Gly Lys Ser
 65 70 75 80
 Val Asp Gly Asn Ser His Glu Leu Gln Lys Phe Lys Thr Leu Cys Val
 85 90 95
 Glu Ala Tyr Glu Val Met Trp Asn Asn Arg Asp Leu Phe Val Ser Leu
 100 105 110
 Phe Thr Leu Met Leu Gly Met Glu Leu Pro Glu Leu Ser Thr Lys Ala
 115 120 125
 Asp Leu Asp His Leu Lys Lys Thr Leu Phe Cys Asn Gly Glu Ser Lys
 130 135 140
 Glu Glu Ala Arg Lys Phe
 145 150

<210> 18
 <211> 113
 <212> PRT
 <213> Caenorhabditis elegans

<400> 18
 Ser Pro Leu Asp Pro Val Tyr Lys Leu Gly Glu Met Ile Ile Asp Lys

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Ala Ile Val Leu Gly Ser Ala Lys Arg Pro Leu Met Leu His Trp Lys
      20           25           30
Asn Lys Asn Pro Lys Ser Asp Leu His Leu Pro Phe Cys Ala Met Ile
      35           40           45
Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu Val Leu Gln Val
      50           55           60
Leu Glu Val Met Asp Asn Ile Trp Lys Ala Ala Asn Ile Asp Cys Cys
      65           70           75
Leu Asn Pro Tyr Ala Val Leu Pro Met Gly Glu Met Ile Gly Ile Ile
      85           90           95
Glu Val Val Pro Asn Cys Lys Thr Ile Phe Glu Ile Gln Val Gly Thr
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Gly

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<210> 19
 <211> 106
 <212> PRT
 <213> Caenorhabditis elegans

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<400> 19
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      20           25           30
Leu Gly Lys Arg Cys Thr Asp Arg Val Ile Arg Lys Phe Ala Val Glu
      35           40           45
Lys Leu Asn Glu Gln Leu Ser Pro Val Thr Phe His Leu Phe Ile Leu
      50           55           60
Pro Leu Ile Gln Ala Leu Lys Tyr Glu Pro Arg Ala Gln Ser Glu Val
      65           70           75
Gly Met Met Leu Leu Thr Arg Ala Leu Cys Asp Tyr Arg Ile Gly His
      85           90           95
Arg Leu Phe Trp Leu Leu Arg Ala Glu Ile
      100          105

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<210> 20
 <211> 139
 <212> PRT
 <213> Caenorhabditis elegans

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<400> 20
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Leu Leu Lys Asn Asn Val Ile Ser Ile Thr Ser Ala Asn Arg Ile Ile
      20           25           30
Met Ser Met Ile Asp Gly Leu Gln Phe Leu His Asp Asp Arg Pro Tyr
      35           40           45
Phe Phe Gly His Pro Lys Lys Pro Ile Ile His Arg Asp Ile Lys Ser
      50           55           60
Lys Asn Ile Leu Val Lys Ser Asp Met Thr Thr Cys Ile Ala Asp Phe
      65           70           75
Gly Leu Ala Arg Ile Tyr Ser Tyr Asp Ile Glu Gln Ser Asp Leu Leu
      85           90           95
Gly Gln Val Gly Thr Lys Arg Tyr Met Ser Pro Glu Met Leu Glu Gly

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			100						105					110			
Ala	Thr	Glu	Phe	Thr	Pro	Thr	Ala	Phe	Lys	Ala	Met	Asp	Val	Tyr	Ser		
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<210> 21
 <211> 61
 <212> PRT
 <213> Caenorhabditis elegans

Ile	Gly	Phe	Asp	Pro	Thr	Ile	Gly	Arg	Met	Arg	Asn	Tyr	Val	Val	Ser		
1				5					10					15			
Lys	Lys	Glu	Arg	Pro	Gln	Trp	Arg	Asp	Glu	Ile	Ile	Lys	His	Glu	Tyr		
		20					25					30					
Met	Ser	Leu	Lys	Lys	Val	Thr	Glu	Glu	Met	Trp	Asp	Pro	Glu	Ala			
		35				40					45						
Cys	Ala	Arg	Ile	Thr	Ala	Gly	Cys	Ala	Phe	Ala	Arg	Val					
	50					55					60						

<210> 22
 <211> 20
 <212> PRT
 <213> Caenorhabditis elegans

Pro	Ile	Thr	Asp	Phe	Gln	Leu	Ile	Ser	Lys	Gly	Arg	Phe	Gly	Lys	Val		
1				5					10					15			
Phe	Lys	Ala	Gln														
			20														

<210> 23
 <211> 163
 <212> PRT
 <213> Caenorhabditis elegans

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Pro	Asn	Arg	Ser	Pro	Gln	Thr	Ala	Glu	Val	Arg	Gly	Leu	Ile	Gly	Lys		
		20					25					30					
Gly	Val	Arg	Phe	Tyr	Leu	Leu	Ala	Gly	Glu	Val	Tyr	Val	Glu	Asn	Leu		
		35				40					45						
Cys	Asn	Ile	Pro	Val	Phe	Val	Gln	Ser	Ile	Gly	Ala	Asn	Met	Lys	Asn		
	50					55				60							
Gly	Phe	Gln	Leu	Asn	Thr	Val	Ser	Lys	Leu	Pro	Pro	Thr	Gly	Thr	Met		
65				70					75					80			
Lys	Val	Phe	Asp	Met	Arg	Leu	Phe	Ser	Lys	Gln	Leu	Arg	Thr	Ala	Ala		
			85					90						95			
Glu	Lys	Thr	Tyr	Gln	Asp	Val	Tyr	Cys	Leu	Ser	Arg	Met	Cys	Thr	Val		
		100					105						110				
Arg	Val	Ser	Phe	Cys	Lys	Gly	Trp	Gly	Glu	His	Tyr	Arg	Arg	Ser	Thr		
		115				120						125					
Val	Leu	Arg	Ser	Pro	Val	Trp	Phe	Gln	Ala	His	Leu	Asn	Asn	Pro	Met		

130 135 140
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 Cys Ser Ser

<210> 24
 <211> 44
 <212> PRT
 <213> Caenorhabditis elegans

<400> 24
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 Ile Leu Thr Cys Arg His Ala Phe Asn Ser His Ser Arg Asn Val Cys
 20 25 30
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 35 40

<210> 25
 <211> 38
 <212> PRT
 <213> Caenorhabditis elegans

<400> 25
 Val Glu Tyr Glu Glu Ser Pro Ser Trp Leu Lys Leu Ile Tyr Tyr Glu
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 Glu Gly Thr Met Ile Gly Glu Lys Ala Asp Val Glu Gly His His Cys
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 Leu Ile Asp Gly Phe Thr
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<210> 26
 <211> 60
 <212> PRT
 <213> Caenorhabditis elegans

<400> 26
 Asn Leu Ala Glu Thr Gly His Ser Lys Ile Met Arg Ala Ala His Lys
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 Val Ser Asn Pro Glu Ile Gly Tyr Cys Cys His Pro Thr Glu Tyr Asp
 20 25 30
 Tyr Ile Lys Leu Ile Tyr Val Asn Arg Asp Gly Arg Val Ser Ile Ala
 35 40 45
 Asn Val Asn Gly Met Ile Ala Lys Lys Cys Gly Cys
 50 55 60

<210> 27
 <211> 20
 <212> PRT
 <213> Caenorhabditis elegans

<400> 27
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<221> misc_feature
 <222> (1)...(23)
 <223> n = A,T,C or G

<400> 31
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23

<210> 32
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Degenerate probe

<221> misc_feature
 <222> (1)...(18)
 <223> n = A,T,C or G

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18

<210> 33
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 33
 Lys Phe His Glu Trp Ala Ala Gln Ile Cys Asp Gly Met Ala Tyr Leu
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 20 25 30
 Ile Asn Arg Asp Glu Thr Val Lys Ile Gly Asp Phe Gly Met Ala Arg
 35 40 45
 Asp Leu Phe Tyr His Asp Tyr Lys Pro Ser Gly Lys Arg Met Met
 50 55 60
 Pro Val Arg Trp Met Ser Pro Glu Ser Leu Lys Asp Gly Lys Phe Asp
 65 70 75 80
 Ser Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Tyr Glu Met Val
 85 90 95
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 100 105 110
 Asn Tyr Ile Gly Met Ala Arg Lys Val Ile Lys Lys Pro Glu Cys
 115 120 125

<210> 34
 <211> 131
 <212> PRT
 <213> Caenorhabditis elegans

<400> 34
 Asn Thr Thr Cys Gln Lys Ser Cys Ala Tyr Asp Arg Leu Leu Pro Thr
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 20 25 30
 Gln Cys Val Gly Gly Cys Glu Arg Val Asn Asp Ala Thr Ala Cys His
 35 40 45

Ala Cys Lys Asn Val Tyr His Lys Gly Lys Cys Ile Glu Lys Cys Asp
 50 55 60
 Ala His Leu Tyr Leu Leu Leu Gln Arg Arg Cys Val Thr Arg Glu Gln
 65 70 75 80
 Cys Leu Gln Leu Asn Pro Val Leu Ser Asn Lys Thr Val Pro Ile Lys
 85 90 95
 Ala Thr Ala Gly Leu Cys Ser Asp Lys Cys Pro Asp Gly Tyr Gln Ile
 100 105 110
 Asn Pro Asp Asp His Arg Glu Cys Arg Lys Cys Val Gly Lys Cys Glu
 115 120 125
 Ile Val Cys
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<210> 35
 <211> 103
 <212> PRT
 <213> Caenorhabditis elegans

<400> 35
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 20 25 30
 Lys Tyr Thr Gly Cys Ile Thr Ile Pro Arg Thr Leu Asp Gly Arg Leu
 35 40 45
 Gln Val His Gly Arg Lys Gly Phe Pro His Val Val Tyr Gly Lys Leu
 50 55 60
 Trp Arg Phe Asn Glu Met Thr Lys Asn Glu Thr Arg His Val Asp His
 65 70 75 80
 Cys Lys His Ala Phe Glu Met Lys Ser Asp Met Val Cys Val Asn Pro
 85 90 95
 Tyr His Tyr Glu Ile Val Ile
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<210> 36
 <211> 79
 <212> PRT
 <213> Caenorhabditis elegans

<400> 36
 Asn Arg Tyr Ser Leu Gly Leu Glu Pro Asn Pro Ile Arg Glu Pro Val
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 20 25 30
 Lys Lys Asp Gly Ser Val Trp Leu Gln Asn Arg Met Lys Tyr Pro Val
 35 40 45
 Phe Val Thr Ser Gly Tyr Leu Asp Glu Gln Ser Gly Gly Leu Lys Lys
 50 55 60
 Asp Lys Val His Lys Val Tyr Gly Cys Ala Ser Ile Lys Thr Phe
 65 70 75

<210> 37
 <211> 106
 <212> PRT
 <213> Caenorhabditis elegans

<400> 37

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Lys Lys Thr Thr Thr Arg Arg Asn Ala Trp Gly Asn Met Ser Tyr Ala
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Glu Leu Ile Thr Thr Ala Ile Met Ala Ser Pro Glu Lys Arg Leu Thr
          20           25           30
Leu Ala Gln Val Tyr Glu Trp Met Val Gln Asn Val Pro Tyr Phe Arg
          35           40           45
Asp Lys Gly Asp Ser Asn Ser Ser Ala Gly Trp Lys Asn Ser Ile Arg
          50           55           60
His Asn Leu Ser Leu His Ser Arg Phe Met Arg Ile Gln Asn Glu Gly
          65           70           75           80
Ala Gly Lys Ser Ser Trp Trp Val Ile Asn Pro Asp Ala Lys Pro Gly
          85           90           95
Met Asn Pro Arg Arg Thr Arg Glu Arg Ser
          100           105

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<210> 38

<211> 60

<212> PRT

<213> Caenorhabditis elegans

<400> 38

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Glu Ile Lys Leu Ser Asp Phe Lys His Gln Leu Phe Glu Leu Ile Ala
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Pro Met Lys Trp Gly Thr Tyr Ser Val Lys Pro Gln Asp Tyr Val Phe
          20           25           30
Arg Gln Leu Asn Asn Phe Gly Glu Ile Glu Val Ile Phe Asn Asp Asp
          35           40           45
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<210> 39

<211> 2784

<212> DNA

<213> Caenorhabditis elegans

<400> 39

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aaaccagcag tagatgaagc acggaaaaag atcgaagttc cgcacgctag tgcgccgcca      300
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 40

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			20					25					30		
Ile	Lys	Met	Glu	Ile	Pro	Pro	Tyr	Leu	Asp	Pro	Asp	Ser	Gln	Asp	Asp
		35					40					45			
Asp	Pro	Glu	Asp	Gly	Val	Asn	Tyr	Pro	Asp	Pro	Asp	Leu	Phe	Asp	Thr
	50					55					60				
Lys	Asn	Thr	Asn	Met	Thr	Glu	Tyr	Asp	Leu	Asp	Val	Leu	Lys	Leu	Gly
65					70				75						80
Lys	Pro	Ala	Val	Asp	Glu	Ala	Arg	Lys	Lys	Ile	Glu	Val	Pro	Asp	Ala
			85						90					95	
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 <213> Caenorhabditis elegans

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<400> 42

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<211> 510

<212> PRT

<213> Caenorhabditis elegans

<400> 45

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 <213> Caenorhabditis elegans

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<212> DNA

<213> *Caenorhabditis elegans*

<400> 47

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TC240" E5E4B60

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Val	Gly														

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Leu His Leu Pro Phe Cys Ala Met Ile Phe Lys Asn Gly Asp Asp Leu
865 870 875 880
Arg Gln Asp Met Leu Val Leu Gln Val Leu Glu Val Met Asp Asn Ile
885 890 895
Trp Lys Ala Ala Asn Ile Asp Cys Cys Leu Asn Pro Tyr Ala Val Leu
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Pro Met Gly Glu Met Ile Gly Ile Ile Glu Val Val Pro Asn Cys Lys
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1075 1080 1085
Tyr Glu Val Met Trp Asn Asn Arg Asp Leu Phe Val Ser Leu Phe Thr
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<220>
<223> Probe/primer derived from C. elegans

<400> 49
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<211> 3119

<212> DNA

<213> *Caenorhabditis elegans*

<400> 53

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<210> 54
 <211> 103
 <212> PRT
 <213> Caenorhabditis elegans

<400> 54

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			20					25					30		
Leu	Ala	Gln	Val	Tyr	Glu	Trp	Met	Val	Gln	Asn	Val	Pro	Tyr	Phe	Arg
		35					40					45			
Asp	Lys	Gly	Asp	Ser	Asn	Ser	Ser	Ala	Gly	Trp	Lys	Asn	Ser	Ile	Arg
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His	Asn	Leu	Ser	Leu	His	Ser	Arg	Phe	Met	Arg	Ile	Gln	Asn	Glu	Gly
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Ala	Gly	Lys	Ser	Ser	Trp	Trp	Val	Ile	Asn	Pro	Asp	Ala	Lys	Pro	Gly
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<210> 55
 <211> 41
 <212> PRT
 <213> Caenorhabditis elegans

<400> 55

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<210> 56
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<212> PRT
 <213> Caenorhabditis elegans

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 35 40 45
 Asn Val Pro Tyr Phe Arg Asp Lys Gly Asp Ser Asn Ser Ser Ala Gly
 50 55 60
 Trp Lys Asn Ser Ile Arg His Asn Leu Ser Leu His Ser Arg Phe Met
 65 70 75 80
 Arg Ile Gln Asn Glu Gly Ala Gly Lys Ser Ser Trp Trp Val Ile Asn
 85 90 95
 Pro Asp Ala Lys Pro Gly Met Asn Pro Arg Arg Thr Arg
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<210> 57
 <211> 655
 <212> PRT
 <213> Homo sapiens

<400> 57
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 35 40 45
 Ala Ala Asn Pro Asp Ala Ala Gly Leu Pro Ser Ala Ser Ala Ala
 50 55 60
 Ala Val Ser Ala Asp Phe Met Ser Asn Leu Ser Leu Leu Glu Glu Ser
 65 70 75 80
 Glu Asp Phe Pro Gln Ala Pro Gly Ser Val Ala Ala Ala Val Ala Ala
 85 90 95
 Ala Ala Ala Ala Ala Ala Thr Gly Gly Leu Cys Gly Asp Phe Gln Gly
 100 105 110
 Pro Glu Ala Gly Cys Leu His Pro Ala Pro Pro Gln Pro Pro Pro
 115 120 125
 Gly Pro Val Ser Gln His Pro Pro Val Pro Pro Ala Ala Ala Gly Pro
 130 135 140
 Leu Ala Gly Gln Pro Arg Lys Ser Ser Ser Ser Arg Arg Asn Ala Trp
 145 150 155 160
 Gly Asn Leu Ser Tyr Ala Asp Leu Ile Thr Lys Ala Ile Glu Ser Ser
 165 170 175
 Ala Glu Lys Arg Leu Thr Leu Ser Gln Ile Tyr Glu Trp Met Val Lys
 180 185 190
 Ser Val Pro Tyr Phe Lys Asp Lys Gly Asp Ser Asn Ser Ser Ala Gly
 195 200 205
 Trp Lys Asn Ser Ile Arg His Asn Leu Ser Leu His Ser Lys Phe Ile
 210 215 220
 Arg Val Gln Asn Glu Gly Thr Gly Lys Ser Ser Trp Trp Met Leu Asn
 225 230 235 240
 Pro Glu Gly Gly Lys Ser Gly Lys Ser Pro Arg Arg Arg Ala Ala Ser
 245 250 255

TCF40 = E3E44360

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Lys	Lys	Ala	Ser	Leu	Gln	Ser	Gly	Gln	Glu	Gly	Ala	Gly	Asp	Ser	Pro
		275					280					285			
Gly	Ser	Gln	Phe	Ser	Lys	Trp	Pro	Ala	Ser	Pro	Gly	Ser	His	Ser	Asn
	290					295					300				
Asp	Asp	Phe	Asp	Asn	Trp	Ser	Thr	Phe	Arg	Pro	Arg	Thr	Ser	Ser	Asn
305					310					315					320
Ala	Ser	Thr	Ile	Ser	Gly	Arg	Leu	Ser	Pro	Ile	Met	Thr	Glu	Gln	Asp
				325					330					335	
Asp	Leu	Gly	Glu	Gly	Asp	Val	His	Ser	Met	Val	Tyr	Pro	Pro	Ser	Ala
			340					345					350		
Ala	Lys	Met	Ala	Ser	Thr	Leu	Pro	Ser	Leu	Ser	Glu	Ile	Ser	Asn	Pro
		355					360					365			
Glu	Asn	Met	Glu	Asn	Leu	Leu	Asp	Asn	Leu	Asn	Leu	Leu	Ser	Ser	Pro
	370					375					380				
Thr	Ser	Leu	Thr	Val	Ser	Thr	Gln	Ser	Ser	Pro	Gly	Thr	Met	Met	Gln
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Gln	Thr	Pro	Cys	Tyr	Ser	Phe	Ala	Pro	Pro	Asn	Thr	Ser	Leu	Asn	Ser
				405					410					415	
Pro	Ser	Pro	Asn	Tyr	Gln	Lys	Tyr	Thr	Tyr	Gly	Gln	Ser	Ser	Met	Ser
			420					425					430		
Pro	Leu	Pro	Gln	Met	Pro	Ile	Gln	Thr	Leu	Gln	Asp	Asn	Lys	Ser	Ser
		435					440					445			
Tyr	Gly	Gly	Met	Ser	Gln	Tyr	Asn	Cys	Ala	Pro	Gly	Leu	Leu	Lys	Glu
	450					455					460				
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465					470					475					480
Asp	Pro	Gly	Val	Ala	Gln	Pro	Asn	Ser	Arg	Val	Leu	Gly	Gln	Asn	Val
				485					490					495	
Met	Met	Gly	Pro	Asn	Ser	Val	Met	Ser	Thr	Tyr	Gly	Ser	Gln	Ala	Ser
			500					505					510		
His	Asn	Lys	Met	Met	Asn	Pro	Ser	Ser	His	Thr	His	Pro	Gly	His	Ala
		515					520					525			
Gln	Gln	Thr	Ser	Ala	Val	Asn	Gly	Arg	Pro	Leu	Pro	His	Thr	Val	Ser
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Thr	Met	Pro	His	Thr	Ser	Gly	Met	Asn	Arg	Leu	Thr	Gln	Val	Lys	Thr
545					550					555					560
Pro	Val	Gln	Val	Pro	Leu	Pro	His	Pro	Met	Gln	Met	Ser	Ala	Leu	Gly
				565					570					575	
Gly	Tyr	Ser	Ser	Val	Ser	Ser	Cys	Asn	Gly	Tyr	Gly	Arg	Met	Gly	Leu
			580					585					590		
Leu	His	Gln	Glu	Lys	Leu	Pro	Ser	Asp	Leu	Asp	Gly	Met	Phe	Ile	Glu
		595					600					605			
Arg	Leu	Asp	Cys	Asp	Met	Glu	Ser	Ile	Ile	Arg	Asn	Asp	Leu	Met	Asp
	610					615					620				
Gly	Asp	Thr	Leu	Asp	Phe	Asn	Phe	Asp	Asn	Val	Leu	Pro	Asn	Gln	Ser
625					630					635					640
Phe	Pro	His	Ser	Val	Lys	Thr	Thr	Thr	His	Ser	Trp	Val	Ser	Gly	
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<210> 58
 <211> 98
 <212> PRT
 <213> Caenorhabditis elegans

 <400> 58

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 20 25 30
 Gln Trp Phe Ser Asp Asn Ile Pro Tyr Phe Gly Glu Arg Ser Ser Pro
 35 40 45
 Glu Glu Ala Ala Gly Trp Lys Asn Ser Ile Arg His Asn Leu Ser Leu
 50 55 60
 His Ser Arg Phe Met Arg Ile Gln Asn Glu Gly Ala Gly Lys Ser Ser
 65 70 75 80
 Trp Trp Val Ile Asn Pro Asp Ala Lys Pro Gly Met Asn Pro Arg Arg
 85 90 95
 Thr Arg

<210> 59
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 59
 Trp Lys Asn Ser Ile Arg His
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<210> 60
 <211> 121
 <212> PRT
 <213> Caenorhabditis elegans

<400> 60
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 20 25 30
 Ser Lys Asp His Asn Lys Leu Phe Glu Leu Ile Met Ala Gly Asp Leu
 35 40 45
 Arg Phe Pro Ser Lys Leu Ser Gln Glu Ala Arg Thr Leu Leu Thr Gly
 50 55 60
 Leu Leu Val Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Pro Glu Asp
 65 70 75 80
 Ala Leu Glu Ile Cys Arg Ala Asp Phe Phe Arg Thr Val Asp Trp Glu
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 Ala Thr Tyr Arg Lys Glu Ile Glu Pro Tyr Lys Pro Asn Val Gln
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 Ser Glu Thr Asp Thr Ser Tyr Phe Asp
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<210> 61
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 <213> Caenorhabditis elegans

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<212> PRT

<213> Caenorhabditis elegans

<400> 65

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 20 25 30
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<210> 66

<211> 21

<212> PRT

<213> Caenorhabditis elegans

<400> 66

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 Trp Arg Pro Arg Phe
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<210> 67

<211> 26

<212> PRT

<213> Caenorhabditis elegans

<400> 67

Phe Ser Glu Pro Arg Ala Arg Phe Tyr Gly Ser Glu Ile Val Leu Ala
 1 5 10 15
 Leu Gly Tyr Leu His Ala Asn Ser Ile Val
 20 25

<210> 68

<211> 39

<212> PRT

<213> Caenorhabditis elegans

<400> 68

Ile Arg Val Ser Phe Cys Lys Gly Phe Gly Glu Thr Tyr Ser Arg Leu
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 Lys Val Val Asn Leu Pro Cys Trp Ile Glu Ile Ile Leu His Glu Pro
 20 25 30
 Ala Asp Glu Tyr Asp Thr Val
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<210> 69

<211> 45

<212> PRT

<213> Caenorhabditis elegans

<400> 69

Ser Arg Asn Ser Lys Ser Ser Gln Ile Arg Asn Thr Val Gly Ala Gly
 1 5 10 15

Ile Gln Leu Ala Tyr Glu Asn Gly Glu Leu Trp Leu Thr Val Leu Thr
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 Asp Gln Ile Val Phe Val Gln Cys Pro Phe Leu Asn Gln
 35 40 45

<210> 70
 <211> 29
 <212> PRT
 <213> Caenorhabditis elegans

<400> 70
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<210> 71
 <211> 29
 <212> PRT
 <213> Caenorhabditis elegans

<400> 71
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 20 25

<210> 72
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 72
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 Asn Val Ile Thr Cys Glu Ser Cys Lys Ala Phe Phe Arg Arg Asn Ala
 35 40 45
 Leu Arg Pro Lys Glu Phe Lys Cys Pro Tyr Ser Glu Asp Cys Glu Ile
 50 55 60
 Asn Ser Val Ser Arg Arg Phe Cys Gln Lys Cys Arg Leu Arg Lys Cys
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 Arg Arg Arg Lys Asn Ser Arg Leu Asn
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<210> 73
 <211> 89
 <212> PRT
 <213> Caenorhabditis elegans

<400> 73

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 20 25 30
 Ser Cys Lys Ala Phe Phe Arg Arg Asn Ala Leu Arg Pro Lys Glu Phe
 35 40 45
 Lys Cys Pro Tyr Ser Glu Asp Cys Glu Ile Asn Ser Val Ser Arg Arg
 50 55 60
 Phe Cys Gln Lys Cys Arg Leu Arg Lys Cys Phe Thr Val Gly Met Lys
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 Lys Glu Trp Ile Leu Asn Glu Glu Gln
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<210> 74
 <211> 73
 <212> PRT
 <213> Caenorhabditis elegans

<400> 74
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 20 25 30
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 35 40 45
 Thr Arg Tyr Asp Ala Ser Thr Asn Ser Phe Lys Thr Pro Thr Ile Lys
 50 55 60
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<210> 75
 <211> 112
 <212> PRT
 <213> Caenorhabditis elegans

<400> 75
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 Glu Gln Glu Lys Gly Asp Gln Leu Leu Met Glu Leu Leu Pro Lys Ser
 35 40 45
 Val Ala Asn Asp Leu Lys Asn Gly Ile Ala Val Asp Pro Lys Val Tyr
 50 55 60
 Glu Asn Ala Thr Ile Leu Tyr Ser Asp Ile Val Gly Phe Thr Ser Leu
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 Cys Ser Gln Ser Gln Pro Met Glu Val Val Thr Leu Leu Ser Gly Met
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 Tyr Gln Arg Phe Asp Leu Ile Ile Ser Gln Gln Gly Gly Tyr Lys Val
 100 105 110

<210> 76
 <211> 107
 <212> PRT
 <213> Caenorhabditis elegans

<400> 76

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 20 25 30
 Gln Arg Asp Cys Leu His His Phe Glu Ile Pro His Arg Pro Gly Thr
 35 40 45
 Phe Leu Asn Cys Arg Trp Gly Phe Asn Ser Gly Pro Val Phe Ala Gly
 50 55 60
 Val Ile Gly Gln Lys Ala Pro Arg Tyr Ala Cys Phe Gly Glu Ala Val
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 Met Thr Leu Ala Ser Gln Gln Leu Leu Glu Glu
 100 105

<210> 77

<211> 43

<212> PRT

<213> Caenorhabditis elegans

<400> 77

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 His Gly Asn Leu Thr Leu His Asn Cys Met Leu Asp Ser His Trp Ile
 20 25 30
 Val Lys Leu Ser Gly Phe Gly Val Asn Arg Leu
 35 40

<210> 78

<211> 15

<212> PRT

<213> Caenorhabditis elegans

<400> 78

Asp Met Tyr Ser Phe Gly Val Ile Leu His Glu Ile Ile Leu Lys
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<210> 79

<211> 67

<212> PRT

<213> Caenorhabditis elegans

<400> 79

Ala Ile Lys Ile Asn Val Asp Asp Pro Ala Ser Thr Glu Asn Leu Asn
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 Tyr Leu Met Glu Ala Asn Ile Met Lys Asn Phe Lys Thr Asn Phe Ile
 20 25 30
 Val Gln Leu Tyr Gly Val Ile Ser Thr Val Gln Pro Ala Met Val Val
 35 40 45
 Met Glu Met Met Asp Leu Gly Asn Leu Arg Asp Tyr Leu Arg Ser Lys
 50 55 60
 Arg Glu Asp
 65

<210> 80
 <211> 54
 <212> PRT
 <213> Caenorhabditis elegans

<400> 80
 Val Ile Lys Lys Pro Glu Cys Cys Glu Asn Tyr Trp Tyr Lys Val Met
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 Lys Met Cys Trp Arg Tyr Ser Pro Arg Asp Arg Pro Thr Phe Leu Gln
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 Leu Val His Leu Leu Ala Ala Glu Ala Ser Pro Glu Phe Arg Asp Leu
 35 40 45
 Ser Phe Val Leu Thr Asp
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<210> 81
 <211> 69
 <212> PRT
 <213> Caenorhabditis elegans

<400> 81
 Lys Gln Asp Ser Gly Met Ala Ser Glu Leu Lys Asp Ile Phe Ala Asn
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 Ile His Thr Ile Thr Gly Tyr Leu Leu Val Arg Gln Ser Ser Pro Phe
 20 25 30
 Ile Ser Leu Asn Met Phe Arg Asn Leu Arg Arg Ile Glu Ala Lys Ser
 35 40 45
 Leu Phe Arg Asn Leu Tyr Ala Ile Thr Val Phe Glu Asn Pro Asn Leu
 50 55 60
 Lys Lys Leu Phe Asp
 65

<210> 82
 <211> 52
 <212> PRT
 <213> Caenorhabditis elegans

<400> 82
 Phe Pro His Leu Arg Glu Ile Thr Gly Thr Leu Leu Val Phe Glu Thr
 1 5 10 15
 Glu Gly Leu Val Asp Leu Arg Lys Ile Phe Pro Asn Leu Arg Val Ile
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 Gly Gly Arg Ser Leu Ile Gln His Tyr Ala Leu Ile Ile Tyr Arg Asn
 35 40 45
 Pro Asp Leu Glu
 50

<210> 83
 <211> 46
 <212> PRT
 <213> Caenorhabditis elegans

<400> 83
 Glu Ile Gly Leu Asp Lys Leu Ser Val Ile Arg Asn Gly Gly Val Arg
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Ile Ile Asp Asn Arg Lys Leu Cys Tyr Thr Lys Thr Ile Asp Trp Lys
 20 25 30
 His Leu Ile Thr Ser Ser Ile Asn Asp Val Val Val Asp Asn
 35 40 45

<210> 84
 <211> 36
 <212> PRT
 <213> Caenorhabditis elegans

<400> 84
 Tyr Asn Ala Asp Asp Trp Glu Leu Arg Gln Asp Asp Val Val Leu Gly
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 Gln Gln Cys Gly Glu Gly Ser Phe Gly Lys Val Tyr Leu Gly Thr Gly
 20 25 30
 Asn Asn Val Val
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<210> 85
 <211> 24
 <212> PRT
 <213> Caenorhabditis elegans

<400> 85
 Asp Ser Leu Ala Lys Tyr Cys Cys Val Arg Val Ser Phe Cys Lys Gly
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 Phe Gly Glu Ala Tyr Pro Glu Arg
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<210> 86
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 86
 Gly Trp Asp Trp Ile Val Ala Pro Pro Arg Tyr Asn Ala
 1 5 10

<210> 87
 <211> 121
 <212> PRT
 <213> Homo sapiens

<400> 87
 Glu Val Leu Glu Asp Asn Asp Tyr Gly Arg Ala Val Asp Trp Trp Gly
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 Leu Gly Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr
 20 25 30
 Asn Gln Asp His Glu Lys Leu Phe Glu Leu Ile Leu Met Glu Glu Ile
 35 40 45
 Arg Phe Pro Arg Thr Leu Gly Pro Glu Ala Lys Ser Leu Leu Ser Gly
 50 55 60
 Leu Leu Lys Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Ser Glu Asp
 65 70 75 80

Ala Lys Glu Ile Met Gln His Arg Phe Phe Ala Asn Ile Val Trp Gln
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Asp Val Tyr Glu Lys Lys Leu Ser Pro Pro Phe Lys Pro Gln Val Thr
100 105 110
Ser Glu Thr Asp Thr Arg Tyr Phe Asp
115 120

<210> 88
<211> 121
<212> PRT
<213> Caenorhabditis elegans

<400> 88
Gln Val Leu Asp Asp His Asp Tyr Gly Arg Cys Val Asp Trp Trp Gly
1 5 10 15
Val Gly Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr
20 25 30
Ser Lys Asp His Asn Lys Leu Phe Glu Leu Ile Met Ala Gly Asp Leu
35 40 45
Arg Phe Pro Ser Lys Leu Ser Gln Glu Ala Arg Thr Leu Leu Thr Gly
50 55 60
Leu Leu Val Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Pro Glu Asp
65 70 75 80
Ala Leu Glu Ile Cys Arg Ala Asp Phe Phe Arg Thr Val Asp Trp Glu
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Ala Thr Tyr Arg Lys Glu Ile Glu Pro Pro Tyr Lys Pro Asn Val Gln
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Ser Glu Thr Asp Thr Ser Tyr Phe Asp
115 120

<210> 89
<211> 66
<212> PRT
<213> Homo sapiens

<400> 89
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Gly Lys Val Ile Leu Val Lys Glu Lys Ala Thr Gly Arg Tyr Tyr Ala
20 25 30
Met Lys Ile Leu Lys Lys Glu Val Ile Val Ala Lys Asp Glu Val Ala
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His Thr Leu Thr Glu Asn Arg Val Leu Gln Asn Ser Arg His Pro Phe
50 55 60
Leu Thr
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<210> 90
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<212> PRT
<213> Caenorhabditis elegans

<400> 90
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Gly Lys Val Ile Leu Cys Lys Glu Lys Arg Thr Gln Lys Leu Tyr Ala
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 Ile Lys Ile Leu Lys Lys Asp Val Ile Ile Ala Arg Glu Glu Val Ala
 35 40 45
 His Thr Leu Thr Glu Asn Arg Val Leu Gln Arg Cys Lys His Pro Phe
 50 55 60
 Leu Thr
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<210> 91
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 91
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 Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val
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<210> 92
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 92
 Lys Leu Glu Asn Leu Leu Leu Asp Lys Asp Gly His Ile Lys Ile Ala
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 Asp Phe Gly Leu Cys Lys Glu Glu Ile Ser Phe Gly Asp Lys Thr Ser
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 Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val
 35 40 45

<210> 93
 <211> 57
 <212> PRT
 <213> Homo sapiens

<400> 93
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 Phe Val Met Glu Tyr Ala Asn Gly Gly Glu Leu Phe Phe His Leu Ser
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 Arg Glu Arg Val Phe Ser Glu Asp Arg Ala Arg Phe Tyr Gly Ala Glu
 35 40 45
 Ile Val Ser Ala Leu Asp Tyr Leu His
 50 55

<210> 94
 <211> 57
 <212> PRT
 <213> Caenorhabditis elegans

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<212> PRT

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			20					25					30		
Glu	Arg	Thr	Phe	His	Val	Glu	Thr	Pro	Glu	Glu	Arg	Glu	Glu	Trp	Ala
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<210> 96

<211> 59

<212> PRT

<213> Caenorhabditis elegans

<400> 96

Ser	Thr	Phe	Ala	Ile	Phe	Tyr	Phe	Gln	Thr	Met	Leu	Phe	Glu	Lys	Pro
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			20					25					30		
Glu	Arg	Thr	Phe	Tyr	Ala	Glu	Ser	Ala	Glu	Val	Arg	Gln	Arg	Trp	Ile
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His	Ala	Ile	Glu	Ser	Ile	Ser	Lys	Lys	Tyr	Lys					
	50					55									

<210> 97

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<212> PRT

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<400> 97

Leu Thr Ala Leu Lys Tyr Ser Phe Gln Thr His Asp Arg Leu Cys Phe
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Glu

<210> 98

<211> 33
 <212> PRT
 <213> Caenorhabditis elegans

<400> 98
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 20 25 30
 Glu

<210> 99
 <211> 473
 <212> PRT
 <213> Homo sapiens

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 Asn Met Asn Ser Gly Leu Gly Ser Met Asn Ser Met Asn Thr Tyr Met
 35 40 45
 Thr Met Asn Thr Met Thr Thr Ser Gly Asn Met Thr Pro Ala Ser Phe
 50 55 60
 Asn Met Ser Tyr Ala Asn Pro Ala Leu Gly Ala Gly Leu Ser Pro Gly
 65 70 75 80
 Ala Val Ala Gly Met Pro Gly Gly Ser Ala Gly Ala Met Asn Ser Met
 85 90 95
 Thr Ala Ala Gly Val Thr Ala Met Gly Thr Ala Leu Ser Pro Ser Gly
 100 105 110
 Met Gly Ala Met Gly Ala Gln Gln Ala Ala Ser Met Met Asn Gly Leu
 115 120 125
 Gly Pro Tyr Ala Ala Ala Met Asn Pro Cys Met Ser Pro Met Ala Tyr
 130 135 140
 Ala Pro Ser Asn Leu Gly Arg Ser Arg Ala Gly Gly Gly Gly Asp Ala
 145 150 155 160
 Lys Thr Phe Lys Arg Ser Tyr Pro His Ala Lys Pro Pro Tyr Ser Tyr
 165 170 175
 Ile Ser Leu Ile Thr Met Ala Ile Gln Arg Ala Pro Ser Lys Met Leu
 180 185 190
 Thr Leu Ser Glu Ile Tyr Gln Trp Ile Met Asp Leu Phe Pro Tyr Tyr
 195 200 205
 Arg Gln Asn Gln Gln Arg Trp Gln Asn Ser Ile Arg His Ser Leu Ser
 210 215 220
 Phe Asn Asp Cys Phe Val Lys Val Ala Arg Ser Pro Asp Lys Pro Gly
 225 230 235 240
 Lys Gly Ser Tyr Trp Thr Leu His Pro Asp Ser Gly Asn Met Phe Glu
 245 250 255
 Asn Gly Cys Tyr Leu Arg Arg Gln Lys Arg Phe Lys Cys Glu Lys Gln
 260 265 270
 Pro Gly Ala Gly Gly Gly Gly Gly Ser Gly Ser Gly Gly Ser Gly Ala
 275 280 285
 Lys Gly Gly Pro Glu Ser Arg Lys Asp Pro Ser Gly Ala Ser Asn Pro
 290 295 300
 Ser Ala Asp Ser Pro Leu His Arg Gly Val His Gly Lys Thr Gly Gln

TOEHO"EEHBO

305					310					315				320
Leu	Glu	Gly	Ala	Pro	Ala	Pro	Gly	Pro	Ala	Ala	Ser	Pro	Gln	Thr
				325					330					335
Asp	His	Ser	Gly	Ala	Thr	Ala	Thr	Gly	Gly	Ala	Ser	Glu	Leu	Lys
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Pro	Ala	Ser	Ser	Thr	Ala	Pro	Pro	Ile	Ser	Ser	Gly	Pro	Gly	Ala
		355					360					365		
Ala	Ser	Val	Pro	Ala	Ser	His	Pro	Ala	His	Gly	Leu	Ala	Pro	His
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Ser	Gln	Leu	His	Leu	Lys	Gly	Asp	Pro	His	Tyr	Ser	Phe	Asn	His
385					390					395				400
Phe	Ser	Ile	Asn	Asn	Leu	Met	Ser	Ser	Ser	Glu	Gln	Gln	His	Lys
			405						410					415
Asp	Phe	Lys	Ala	Tyr	Glu	Gln	Ala	Leu	Gln	Tyr	Ser	Pro	Tyr	Gly
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Thr	Leu	Pro	Ala	Ser	Leu	Pro	Leu	Gly	Ser	Ala	Ser	Val	Thr	Thr
		435					440					445		
Ser	Pro	Ile	Glu	Pro	Ser	Ala	Leu	Glu	Pro	Ala	Tyr	Tyr	Gln	Gly
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<213> Homo sapiens

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Tyr	Tyr	Pro	Glu	Ala	Gly	Glu	Val	Tyr	Ser	Pro	Val	Thr	Pro	Val	Pro
			20					25					30		
Thr	Met	Ala	Pro	Leu	Asn	Ser	Tyr	Met	Thr	Leu	Asn	Pro	Leu	Ser	Ser
		35				40					45				
Pro	Tyr	Pro	Gly	Gly	Leu	Pro	Ala	Ser	Pro	Leu	Pro	Ser	Gly	Pro	Leu
	50				55					60					
Ala	Pro	Pro	Ala	Pro	Ala	Ala	Pro	Leu	Gly	Pro	Thr	Phe	Pro	Gly	Leu
65					70				75					80	
Gly	Leu	Ser	Gly	Gly	Ser	Ser	Ser	Ser	Gly	Tyr	Gly	Ala	Pro	Gly	Pro
			85					90					95		
Gly	Leu	Val	His	Gly	Lys	Glu	Met	Pro	Lys	Gly	Tyr	Arg	Ala	Pro	Ala
			100					105					110		
His	Ala	Lys	Pro	Pro	Tyr	Ser	Tyr	Ile	Ser	Leu	Ile	Thr	Met	Ala	Ile
		115				120						125			
Gln	Gln	Ala	Pro	Gly	Lys	Val	Leu	Thr	Leu	Ser	Glu	Ile	Tyr	Gln	Trp
	130				135						140				
Ile	Met	Asp	Leu	Phe	Pro	Tyr	Tyr	Arg	Asp	Asn	Gln	Gln	Arg	Trp	Gln
145					150				155					160	
Asn	Ser	Ile	Arg	His	Ser	Leu	Ser	Phe	Asn	Asp	Cys	Phe	Val	Lys	Val
				165					170					175	
Ala	Arg	Ser	Pro	Asp	Lys	Pro	Gly	Lys	Gly	Ser	Tyr	Trp	Ala	Leu	His
			180					185					190		
Pro	Ser	Ser	Gly	Asn	Met	Phe	Glu	Asn	Gly	Cys	Tyr	Leu	Arg	Arg	Gln
		195					200					205			
Lys	Arg	Phe	Lys	Leu	Glu	Glu	Lys	Val	Lys	Lys	Gly	Gly	Ser	Gly	Ala
	210					215					220				
Ser	Thr	Thr	Arg	Asn	Gly	Thr	Gly	Ser	Ala	Ala	Ser	Thr	Thr	Thr	Pro

225					230					235				240
Ala	Ala	Thr	Val	Thr	Ser	Pro	Pro	Gln	Pro	Pro	Pro	Pro	Ala	Pro
				245					250					255
Pro	Glu	Ala	Gln	Gly	Gly	Glu	Asp	Val	Gly	Ala	Leu	Asp	Cys	Gly
			260					265					270	
Pro	Ala	Ser	Ser	Thr	Pro	Tyr	Phe	Thr	Gly	Leu	Glu	Leu	Pro	Gly
		275					280					285		
Leu	Lys	Leu	Asp	Ala	Pro	Tyr	Asn	Phe	Asn	His	Pro	Phe	Ser	Ile
	290					295					300			
Asn	Leu	Met	Ser	Glu	Gln	Thr	Pro	Ala	Pro	Pro	Lys	Leu	Asp	Val
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Phe	Gly	Gly	Tyr	Gly	Ala	Glu	Gly	Gly	Glu	Pro	Gly	Val	Tyr	Tyr
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Gly	Leu	Tyr	Ser	Arg	Ser	Leu	Leu	Asn	Ala	Ser				
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<400> 101

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Ser	Thr	Ser	Thr	Ser	Ser	Val	Ser	Arg	Phe	Gly	Ala	Asp	Thr	Phe	Met
			20					25					30		
Asn	Thr	Pro	Asp	Asp	Val	Met	Met	Asn	Asp	Asp	Met	Glu	Pro	Ile	Pro
		35				40					45				
Arg	Asp	Arg	Cys	Asn	Thr	Trp	Pro	Met	Arg	Arg	Pro	Gln	Leu	Glu	Pro
	50				55					60					
Pro	Leu	Asn	Ser	Ser	Pro	Ile	Ile	His	Glu	Gln	Ile	Pro	Glu	Glu	Asp
65					70				75						80
Ala	Asp	Leu	Tyr	Gly	Ser	Asn	Glu	Gln	Cys	Gly	Gln	Leu	Gly	Gly	Ala
			85					90					95		
Ser	Ser	Asn	Gly	Ser	Thr	Ala	Met	Leu	His	Thr	Pro	Asp	Gly	Ser	Asn
			100				105						110		
Ser	His	Gln	Thr	Ser	Phe	Pro	Ser	Glu	Cys	Tyr	Thr	Trp	Pro	Met	Gln
		115					120					125			
Gln	Tyr	Ile	Tyr	Gln	Glu	Ser	Ala	Thr	Ile	Pro	His	His	His	His	Leu
	130					135				140					
Asn	Gln	His	Asn	Asn	Pro	Tyr	His	Pro	Met	His	Pro	His	His	Gln	Leu
145					150				155						160
Pro	His	Met	Gln	Gln	Leu	Pro	Gln	Pro	Leu	Leu	Asn	Leu	Asn	Met	Thr
			165					170						175	
Thr	Leu	Thr	Ser	Ser	Gly	Ser	Ser	Val	Ala	Ser	Ser	Ile	Gly	Gly	Gly
			180					185					190		
Ala	Gln	Cys	Ser	Pro	Cys	Ala	Ser	Gly	Ser	Ser	Thr	Ala	Ala	Thr	Asn
		195					200				205				
Ser	Ser	Gln	Gln	Gln	Gln	Thr	Val	Gly	Gln	Met	Leu	Ala	Ala	Ser	Val
	210					215				220					
Pro	Cys	Ser	Ser	Ser	Gly	Met	Thr	Leu	Gly	Met	Ser	Leu	Asn	Leu	Ser
225					230				235						240
Gln	Gly	Gly	Gly	Pro	Met	Pro	Ala	Lys	Lys	Lys	Arg	Cys	Arg	Lys	Lys
			245					250						255	
Pro	Thr	Asp	Gln	Leu	Ala	Gln	Lys	Lys	Pro	Asn	Pro	Trp	Gly	Glu	Glu
			260				265						270		
Ser	Tyr	Ser	Asp	Ile	Ile	Ala	Lys	Ala	Leu	Glu	Ser	Ala	Pro	Asp	Gly

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 <213> Homo sapiens

<400> 103

Arg	Gly	Ala	Ile	Arg	Ile	Glu	Lys	Asn	Ala	Asp	Leu	Cys	Tyr	Leu	Ser
1				5					10					15	
Thr	Val	Asp	Trp	Ser	Leu	Ile	Leu	Asp	Ala	Val	Ser	Asn	Asn	Tyr	Ile
			20					25					30		
Val	Gly	Asn	Lys	Pro	Pro	Lys	Glu	Cys	Gly	Asp	Leu	Cys	Pro	Gly	Thr
		35					40					45			
Met	Glu	Glu	Lys	Pro	Met	Cys	Glu	Lys	Thr	Thr	Ile	Asn	Asn	Glu	Tyr
	50					55					60				
Asn	Tyr	Arg	Cys	Trp	Thr	Thr	Asn	Arg	Cys	Gln	Lys	Met	Cys	Pro	Ser
65					70					75					80
Thr	Cys	Gly	Lys	Arg	Ala	Cys	Thr	Glu	Asn	Asn	Glu	Cys	Cys	His	Pro
				85					90					95	
Glu	Cys	Leu	Gly	Ser	Cys	Ser	Ala	Pro	Asp	Asn	Asp	Thr	Ala	Cys	Val
			100					105					110		
Ala	Cys	Arg	His	Tyr	Tyr	Tyr	Ala	Gly	Val	Cys	Val	Pro	Ala	Cys	Pro
		115					120					125			
Pro	Asn	Thr	Tyr	Arg	Phe	Glu	Gly	Trp	Arg	Cys	Val	Asp	Arg	Asp	Phe
		130				135					140				
Cys	Ala	Asn	Ile	Leu	Ser	Ala	Glu	Ser	Ser	Asp	Ser	Glu	Gly	Phe	Val
145					150					155					160
Ile	His	Asp	Gly	Glu	Cys	Met	Gln	Glu	Cys	Pro	Ser	Gly	Phe	Ile	Arg
			165						170					175	
Asn	Gly	Ser	Gln	Ser	Met	Tyr	Cys	Ile	Pro	Cys	Glu	Gly	Pro	Cys	Pro
			180					185					190		
Lys	Val	Cys	Glu	Glu	Glu	Lys	Lys	Thr	Lys	Thr	Ile	Asp	Ser	Val	Thr
		195					200					205			
Ser	Ala	Gln	Met	Leu	Gln	Gly	Cys	Thr	Ile	Phe	Lys	Gly	Asn	Leu	Leu
	210					215					220				
Ile	Asn	Ile	Arg	Arg	Gly	Asn	Asn	Ile	Ala	Ser	Glu	Leu	Glu	Asn	Phe
225					230					235					240
Met	Gly	Leu	Ile	Glu	Val	Val	Thr	Gly	Tyr	Val	Lys	Ile	Arg	His	Ser
				245					250					255	
His	Ala	Leu	Val	Ser	Leu	Ser	Phe	Leu	Lys	Asn	Leu	Arg	Leu	Ile	Leu
			260					265					270		
Gly	Glu	Glu	Gln	Leu	Glu	Gly	Asn	Tyr	Ser	Phe	Tyr	Val	Leu	Asp	Asn
		275					280					285			
Gln	Asn	Leu	Gln	Gln	Leu	Trp	Asp	Trp	Asp	His	Arg	Asn	Leu	Thr	Ile
	290					295					300				
Lys	Ala	Gly	Lys	Met	Tyr	Phe	Ala	Phe	Asn	Pro	Lys	Leu	Cys	Val	Ser
305					310					315					320
Glu	Ile	Tyr	Arg	Met	Glu	Glu	Val	Thr	Gly	Thr	Lys	Gly	Arg	Gln	Ser
				325					330					335	
Lys	Gly	Asp	Ile	Asn	Thr	Arg	Asn	Asn	Gly	Glu	Arg	Ala	Ser	Cys	Glu
			340					345					350		
Ser	Asp	Val	Leu	His	Phe	Thr	Ser	Thr	Thr	Thr	Ser	Lys	Asn		
		355					360						365		

<210> 104

<211> 370
 <212> PRT
 <213> Homo sapiens

<400> 104

Arg	Gly	Ser	Val	Arg	Ile	Glu	Lys	Asn	Asn	Glu	Leu	Cys	Tyr	Leu	Ala
1				5					10					15	
Thr	Ile	Asp	Trp	Ser	Arg	Ile	Leu	Asp	Ser	Val	Glu	Asp	Asn	Tyr	Ile
			20					25					30		
Val	Leu	Asn	Lys	Asp	Asp	Asn	Glu	Glu	Cys	Gly	Asp	Ile	Cys	Pro	Gly
		35				40						45			
Thr	Ala	Lys	Gly	Lys	Thr	Asn	Cys	Pro	Ala	Thr	Val	Ile	Asn	Gly	Gln
	50					55					60				
Phe	Val	Glu	Arg	Cys	Trp	Thr	His	Ser	His	Cys	Gln	Lys	Val	Cys	Pro
65					70				75					80	
Thr	Ile	Cys	Lys	Ser	His	Gly	Cys	Thr	Ala	Glu	Gly	Leu	Cys	Cys	His
				85					90					95	
Ser	Glu	Cys	Leu	Gly	Asn	Cys	Ser	Gln	Pro	Asp	Asp	Pro	Thr	Lys	Cys
			100					105					110		
Val	Ala	Cys	Arg	Asn	Phe	Tyr	Leu	Asp	Gly	Arg	Cys	Val	Glu	Thr	Cys
		115					120					125			
Pro	Pro	Pro	Tyr	Tyr	His	Phe	Gln	Asp	Trp	Arg	Cys	Val	Asn	Phe	Ser
	130					135					140				
Phe	Cys	Gln	Asp	Leu	His	Lys	Cys	Lys	Asn	Ser	Arg	Arg	Gln	Gly	
145					150				155					160	
Cys	His	Gln	Tyr	Val	Ile	His	Asn	Asn	Lys	Cys	Ile	Pro	Glu	Cys	Pro
				165					170					175	
Ser	Gly	Tyr	Thr	Met	Asn	Ser	Ser	Asn	Leu	Leu	Cys	Thr	Pro	Cys	Leu
			180					185					190		
Gly	Pro	Cys	Pro	Lys	Val	Cys	His	Leu	Leu	Glu	Gly	Glu	Lys	Thr	Ile
		195					200					205			
Asp	Ser	Val	Thr	Ser	Ala	Gln	Glu	Leu	Arg	Gly	Cys	Thr	Val	Ile	Asn
	210					215					220				
Gly	Ser	Leu	Ile	Ile	Asn	Ile	Arg	Gly	Gly	Asn	Asn	Leu	Ala	Ala	Glu
225					230					235					240
Leu	Glu	Ala	Asn	Leu	Gly	Leu	Ile	Glu	Glu	Ile	Ser	Gly	Tyr	Leu	Lys
			245						250					255	
Ile	Arg	Arg	Ser	Tyr	Ala	Leu	Val	Ser	Leu	Ser	Phe	Phe	Arg	Lys	Leu
			260					265					270		
Arg	Leu	Ile	Arg	Gly	Glu	Thr	Leu	Glu	Ile	Gly	Asn	Tyr	Ser	Phe	Tyr
		275					280					285			
Ala	Leu	Asp	Asn	Gln	Asn	Leu	Arg	Gln	Leu	Trp	Asp	Trp	Ser	Lys	His
	290					295					300				
Asn	Leu	Thr	Ile	Thr	Gln	Gly	Lys	Leu	Phe	Phe	His	Tyr	Asn	Pro	Lys
305					310					315					320
Leu	Cys	Leu	Ser	Glu	Ile	His	Lys	Met	Glu	Glu	Val	Ser	Gly	Thr	Lys
			325						330					335	
Gly	Arg	Gln	Glu	Arg	Asn	Asp	Ile	Ala	Leu	Lys	Thr	Asn	Gly	Asp	Gln
			340					345					350		
Ala	Ser	Cys	Glu	Asn	Glu	Leu	Leu	Lys	Phe	Ser	Tyr	Ile	Arg	Thr	Ser
		355					360						365		
Phe	Asp														
	370														

<210> 105
 <211> 383
 <212> PRT

<213> *Drosophila melanogaster*

<400> 105

Arg Gly Gly Val Arg Ile Glu Lys Asn His Lys Leu Cys Tyr Asp Arg
1 5 10 15
Thr Ile Asp Trp Leu Glu Ile Leu Ala Glu Asn Glu Ser Gln Leu Val
20 25 30
Val Leu Thr Glu Asn Gly Lys Glu Lys Glu Cys Ser Leu Ser Lys Cys
35 40 45
Pro Gly Glu Ile Arg Ile Glu Glu Gly His Asp Asn Thr Ala Ile Glu
50 55 60
Gly Glu Leu Asn Ala Ser Cys Gln Leu His Asn Asn Arg Arg Leu Cys
65 70 75 80
Trp Asn Ser Lys Leu Cys Gln Thr Lys Cys Pro Glu Lys Cys Arg Asn
85 90 95
Asn Cys Ile Asp Glu His Thr Cys Cys Ser Gln Asp Cys Leu Gly Gly
100 105 110
Cys Val Ile Asp Lys Asn Gly Asn Glu Ser Cys Ile Ser Cys Arg Asn
115 120 125
Val Ser Phe Asn Asn Ile Cys Met Asp Ser Cys Pro Lys Gly Tyr Tyr
130 135 140
Gln Phe Asp Ser Arg Cys Val Thr Ala Asn Glu Cys Ile Thr Leu Thr
145 150 155 160
Lys Phe Glu Thr Asn Ser Val Tyr Ser Gly Ile Pro Tyr Asn Gly Gln
165 170 175
Cys Ile Thr His Cys Pro Thr Gly Tyr Gln Lys Ser Glu Asn Lys Arg
180 185 190
Met Cys Glu Pro Cys Pro Gly Gly Lys Cys Asp Lys Glu Cys Ser Ser
195 200 205
Gly Leu Ile Asp Ser Leu Glu Arg Ala Arg Glu Phe His Gly Cys Thr
210 215 220
Ile Ile Thr Gly Thr Glu Pro Leu Thr Ile Ser Ile Lys Arg Glu Ser
225 230 235 240
Gly Ala His Val Met Asp Glu Leu Lys Tyr Gly Leu Ala Ala Val His
245 250 255
Lys Ile Gln Ser Ser Leu Met Val His Leu Thr Tyr Gly Leu Lys Ser
260 265 270
Leu Lys Phe Phe Gln Ser Leu Thr Glu Ile Ser Gly Asp Pro Pro Met
275 280 285
Asp Ala Asp Lys Tyr Ala Leu Tyr Val Leu Asp Asn Arg Asp Leu Asp
290 295 300
Glu Leu Trp Gly Pro Asn Gln Thr Val Phe Ile Arg Lys Gly Gly Val
305 310 315 320
Phe Phe His Phe Asn Pro Lys Leu Cys Val Ser Thr Ile Asn Gln Leu
325 330 335
Leu Pro Met Leu Ala Ser Lys Pro Lys Phe Phe Glu Lys Ser Asp Glu
340 345 350
Gly Ala Asp Ser Asn Gly Asn Arg Gly Ser Cys Gly Thr Ala Val Leu
355 360 365
Asn Val Thr Leu Gln Ser Val Gly Ala Asn Ser Ala Ser Leu Asn
370 375 380

<210> 106

<211> 381

<212> PRT

<213> *Caenorhabditis elegans*

<400> 106

Asn	Gly	Gly	Val	Arg	Ile	Ile	Asp	Asn	Arg	Lys	Leu	Cys	Tyr	Thr	Lys
1				5					10					15	
Thr	Ile	Asp	Trp	Lys	His	Leu	Ile	Thr	Ser	Ser	Ile	Asn	Asp	Val	Val
			20					25					30		
Val	Asp	Asn	Ala	Ala	Glu	Tyr	Ala	Val	Thr	Glu	Thr	Gly	Leu	Met	Cys
		35					40					45			
Pro	Arg	Gly	Ala	Cys	Glu	Glu	Asp	Lys	Gly	Glu	Ser	Lys	Cys	His	Tyr
	50					55					60				
Leu	Glu	Glu	Lys	Asn	Gln	Glu	Gln	Gly	Val	Glu	Arg	Val	Gln	Ser	Cys
65					70					75					80
Trp	Ser	Asn	Thr	Thr	Cys	Gln	Lys	Ser	Cys	Ala	Tyr	Asp	Arg	Leu	Leu
				85					90					95	
Pro	Thr	Lys	Glu	Ile	Gly	Pro	Gly	Cys	Asp	Ala	Asn	Gly	Asp	Arg	Cys
			100					105					110		
His	Asp	Gln	Cys	Val	Gly	Gly	Cys	Glu	Arg	Val	Asn	Asp	Ala	Thr	Ala
		115						120				125			
Cys	His	Ala	Cys	Lys	Asn	Val	Tyr	His	Lys	Gly	Lys	Cys	Ile	Glu	Lys
	130					135					140				
Cys	Asp	Ala	His	Leu	Tyr	Leu	Leu	Leu	Gln	Arg	Arg	Cys	Val	Thr	Arg
145					150					155					160
Glu	Gln	Cys	Leu	Gln	Leu	Asn	Pro	Val	Leu	Ser	Asn	Lys	Thr	Val	Pro
				165					170					175	
Ile	Lys	Ala	Thr	Ala	Gly	Leu	Cys	Ser	Asp	Lys	Cys	Pro	Asp	Gly	Tyr
			180					185					190		
Gln	Ile	Asn	Pro	Asp	Asp	His	Arg	Glu	Cys	Arg	Lys	Cys	Val	Gly	Lys
		195					200					205			
Cys	Glu	Ile	Val	Cys	Glu	Ile	Asn	His	Val	Ile	Asp	Thr	Phe	Pro	Lys
	210					215					220				
Ala	Gln	Ala	Ile	Arg	Leu	Cys	Asn	Ile	Ile	Asp	Gly	Asn	Leu	Thr	Ile
225					230					235					240
Glu	Ile	Arg	Gly	Lys	Gln	Asp	Ser	Gly	Met	Ala	Ser	Glu	Leu	Lys	Asp
				245					250					255	
Ile	Phe	Ala	Asn	Ile	His	Thr	Ile	Thr	Gly	Tyr	Leu	Leu	Val	Arg	Gln
			260					265					270		
Ser	Ser	Pro	Phe	Ile	Ser	Leu	Asn	Met	Phe	Arg	Asn	Leu	Arg	Arg	Ile
		275					280					285			
Glu	Ala	Lys	Ser	Leu	Phe	Arg	Asn	Leu	Tyr	Ala	Ile	Thr	Val	Phe	Glu
	290					295					300				
Asn	Pro	Asn	Leu	Lys	Lys	Leu	Phe	Asp	Ser	Thr	Thr	Asp	Leu	Thr	Leu
305				310						315					320
Asp	Arg	Gly	Thr	Val	Ser	Ile	Ala	Asn	Asn	Lys	Met	Leu	Cys	Phe	Lys
				325					330					335	
Tyr	Ile	Lys	Gln	Leu	Met	Ser	Lys	Leu	Asn	Ile	Pro	Leu	Asp	Pro	Ile
			340					345					350		
Asp	Gln	Ser	Glu	Gly	Thr	Asn	Gly	Glu	Lys	Ala	Ile	Cys	Glu	Asp	Met
		355					360					365			
Ala	Ile	Asn	Val	Ser	Ile	Thr	Ala	Val	Asn	Ala	Asp	Ser			
	370					375					380				

<210> 107

<211> 370

<212> PRT

<213> Homo sapiens

<400> 107

Ala Leu Pro Val Ala Val Leu Leu Ile Val Gly Gly Leu Val Ile Met

1												5				10				15			
Leu	Tyr	Val	Phe	His	Arg	Lys	Arg	Asn	Asn	Ser	Arg	Leu	Gly	Asn	Gly								
			20							25				30									
Val	Leu	Tyr	Ala	Ser	Val	Asn	Pro	Glu	Tyr	Phe	Ser	Ala	Ala	Asp	Val								
			35				40				45												
Tyr	Val	Pro	Asp	Glu	Trp	Glu	Val	Ala	Arg	Glu	Lys	Ile	Thr	Met	Ser								
			50				55				60												
Arg	Glu	Leu	Gly	Gln	Gly	Ser	Phe	Gly	Met	Val	Tyr	Glu	Gly	Val	Ala								
65							70				75				80								
Lys	Gly	Val	Val	Lys	Asp	Glu	Pro	Glu	Thr	Arg	Val	Ala	Ile	Lys	Thr								
						85				90				95									
Val	Asn	Glu	Ala	Ala	Ser	Met	Arg	Glu	Arg	Ile	Glu	Phe	Leu	Asn	Glu								
			100				105				110												
Ala	Ser	Val	Met	Lys	Glu	Phe	Asn	Cys	His	His	Val	Val	Arg	Leu	Leu								
			115				120				125												
Gly	Val	Val	Ser	Gln	Gly	Gln	Pro	Thr	Leu	Val	Ile	Met	Glu	Leu	Met								
			130				135				140												
Thr	Arg	Gly	Asp	Leu	Lys	Ser	Tyr	Leu	Arg	Ser	Leu	Arg	Pro	Glu	Met								
145							150				155				160								
Glu	Asn	Asn	Pro	Val	Leu	Ala	Pro	Pro	Ser	Leu	Ser	Lys	Met	Ile	Gln								
						165				170				175									
Met	Ala	Gly	Glu	Ile	Ala	Asp	Gly	Met	Ala	Tyr	Leu	Asn	Ala	Asn	Lys								
			180				185				190												
Phe	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Cys	Met	Val	Ala	Glu	Asp								
			195				200				205												
Phe	Thr	Val	Lys	Ile	Gly	Asp	Phe	Gly	Met	Thr	Arg	Asp	Ile	Tyr	Glu								
			210				215				220												
Thr	Asp	Tyr	Tyr	Arg	Lys	Gly	Gly	Lys	Gly	Leu	Leu	Pro	Val	Arg	Trp								
225							230				235				240								
Met	Ser	Pro	Glu	Ser	Leu	Lys	Asp	Gly	Val	Phe	Thr	Thr	Tyr	Ser	Asp								
						245				250				255									
Val	Trp	Ser	Phe	Gly	Val	Val	Leu	Trp	Glu	Ile	Ala	Thr	Leu	Ala	Glu								
			260				265				270												
Gln	Pro	Tyr	Gln	Gly	Leu	Ser	Asn	Glu	Gln	Val	Leu	Arg	Phe	Val	Met								
			275				280				285												
Glu	Gly	Gly	Leu	Leu	Asp	Lys	Pro	Asp	Asn	Cys	Pro	Asp	Met	Leu	Phe								
			290				295				300												
Glu	Leu	Met	Arg	Met	Cys	Trp	Gln	Tyr	Asn	Pro	Lys	Met	Arg	Pro	Ser								
305							310				315				320								
Phe	Leu	Glu	Ile	Ile	Ser	Ser	Ile	Lys	Glu	Glu	Met	Glu	Pro	Gly	Phe								
			325				330				335												
Arg	Glu	Val	Ser	Phe	Tyr	Tyr	Ser	Glu	Glu	Asn	Lys	Leu	Pro	Glu	Pro								
			340				345				350												
Glu	Glu	Leu	Asp	Leu	Glu	Pro	Glu	Asn	Met	Glu	Ser	Val	Pro	Leu	Asp								
			355				360				365												
Pro	Ser																						
		370																					

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<210> 108
<211> 374
<212> PRT
<213> Homo sapiens
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<400> 108
Ile Gly Pro Leu Ile Phe Val Phe Leu Phe Ser Val Val Ile Gly Ser
1 5 10 15
Ile Tyr Leu Phe Leu Arg Lys Arg Gln Pro Asp Gly Pro Leu Gly Pro

[illegible]

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<210> 109
<211> 384
<212> PRT
<213> Drosophila melanogaster
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<400> 109															
Gly	Ile	Gly	Leu	Ala	Phe	Leu	Ile	Val	Ser	Leu	Phe	Gly	Tyr	Val	Cys
1				5					10					15	
Tyr	Leu	His	Lys	Arg	Lys	Val	Pro	Ser	Asn	Asp	Leu	His	Met	Asn	Thr
			20					25					30		
Glu	Val	Asn	Pro	Phe	Tyr	Ala	Ser	Met	Gln	Tyr	Ile	Pro	Asp	Asp	Trp

		35					40					45						
Glu	Val	Leu	Arg	Glu	Asn	Ile	Ile	Gln	Leu	Ala	Pro	Leu	Gly	Gln	Gly			
	50					55					60							
Ser	Phe	Gly	Met	Val	Tyr	Glu	Gly	Ile	Leu	Lys	Ser	Phe	Pro	Pro	Asn			
65					70					75					80			
Gly	Val	Asp	Arg	Glu	Cys	Ala	Ile	Lys	Thr	Val	Asn	Glu	Asn	Ala	Thr			
				85					90					95				
Asp	Arg	Glu	Arg	Thr	Asn	Phe	Leu	Ser	Glu	Ala	Ser	Val	Met	Lys	Glu			
				100				105					110					
Phe	Asp	Thr	Tyr	His	Val	Val	Arg	Leu	Leu	Gly	Val	Cys	Ser	Arg	Gly			
		115					120					125						
Gln	Pro	Ala	Leu	Val	Val	Met	Glu	Leu	Met	Lys	Lys	Gly	Asp	Leu	Lys			
	130					135					140							
Ser	Tyr	Leu	Arg	Ala	His	Arg	Pro	Glu	Glu	Arg	Asp	Glu	Ala	Met	Met			
145					150					155					160			
Thr	Tyr	Leu	Asn	Arg	Ile	Gly	Val	Thr	Gly	Asn	Val	Gln	Pro	Pro	Thr			
				165					170					175				
Tyr	Gly	Arg	Ile	Tyr	Gln	Met	Ala	Ile	Glu	Ile	Ala	Asp	Gly	Met	Ala			
			180					185					190					
Tyr	Leu	Ala	Ala	Lys	Lys	Phe	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn			
		195					200					205						
Cys	Met	Val	Ala	Asp	Asp	Leu	Thr	Val	Lys	Ile	Gly	Asp	Phe	Gly	Met			
	210					215					220							
Thr	Arg	Asp	Ile	Tyr	Glu	Thr	Asp	Tyr	Tyr	Arg	Lys	Gly	Thr	Lys	Gly			
225					230					235					240			
Leu	Leu	Pro	Val	Arg	Trp	Met	Pro	Pro	Glu	Ser	Leu	Arg	Asp	Gly	Val			
				245					250					255				
Tyr	Ser	Ser	Ala	Ser	Asp	Val	Phe	Ser	Phe	Gly	Val	Val	Leu	Trp	Glu			
			260					265					270					
Met	Ala	Thr	Leu	Ala	Ala	Gln	Pro	Tyr	Gln	Gly	Leu	Ser	Asn	Glu	Gln			
		275					280					285						
Val	Leu	Arg	Tyr	Val	Ile	Asp	Gly	Gly	Val	Met	Glu	Arg	Pro	Glu	Asn			
	290					295					300							
Cys	Pro	Asp	Phe	Leu	His	Lys	Leu	Met	Gln	Arg	Cys	Trp	His	His	Arg			
305					310					315					320			
Ser	Ser	Ala	Arg	Pro	Ser	Phe	Leu	Asp	Ile	Ile	Ala	Tyr	Leu	Glu	Pro			
				325					330					335				
Gln	Cys	Pro	Asn	Ser	Gln	Phe	Lys	Glu	Val	Ser	Phe	Tyr	His	Ser	Glu			
			340					345					350					
Ala	Gly	Leu	Gln	His	Arg	Glu	Lys	Glu	Arg	Lys	Glu	Arg	Asn	Gln	Leu			
		355					360					365						
Asp	Ala	Phe	Ala	Ala	Val	Pro	Leu	Asp	Gln	Asp	Leu	Gln	Asp	Arg	Glu			
	370					375					380							

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<210> 110
<211> 380
<212> PRT
<213> Caenorhabditis elegans
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-60-

50		55		60
Gln Cys Gly Glu Gly Ser Phe Gly Lys Val Tyr Leu Gly Thr Gly Asn				
65		70		75
Asn Val Val Ser Leu Met Gly Asp Arg Phe Gly Pro Cys Ala Ile Lys				
	85		90	95
Ile Asn Val Asp Asp Pro Ala Ser Thr Glu Asn Leu Asn Tyr Leu Met				
	100		105	110
Glu Ala Asn Ile Met Lys Asn Phe Lys Thr Asn Phe Ile Val Gln Leu				
	115		120	125
Tyr Gly Val Ile Ser Thr Val Gln Pro Ala Met Val Val Met Glu Met				
	130		135	140
Met Asp Leu Gly Asn Leu Arg Asp Tyr Leu Arg Ser Lys Arg Glu Asp				
145		150		155
Glu Val Phe Asn Glu Thr Asp Cys Asn Phe Phe Asp Ile Ile Pro Arg				
	165		170	175
Asp Lys Phe His Glu Trp Ala Ala Gln Ile Cys Asp Gly Met Ala Tyr				
	180		185	190
Leu Glu Ser Leu Lys Phe Cys His Arg Asp Leu Ala Ala Arg Asn Cys				
	195		200	205
Met Ile Asn Arg Asp Glu Thr Val Lys Ile Gly Asp Phe Gly Met Ala				
210		215		220
Arg Asp Leu Phe Tyr His Asp Tyr Tyr Lys Pro Ser Gly Lys Arg Met				
225		230		235
Met Pro Val Arg Trp Met Ser Pro Glu Ser Leu Lys Asp Gly Lys Phe				
	245		250	255
Asp Ser Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Tyr Glu Met				
	260		265	270
Val Thr Leu Gly Ala Gln Pro Tyr Ile Gly Leu Ser Asn Asp Glu Val				
	275		280	285
Leu Asn Tyr Ile Gly Met Ala Arg Lys Val Ile Lys Lys Pro Glu Cys				
290		295		300
Cys Glu Asn Tyr Trp Tyr Lys Val Met Lys Met Cys Trp Arg Tyr Ser				
305		310		315
Pro Arg Asp Arg Pro Thr Phe Leu Gln Leu Val His Leu Leu Ala Ala				
	325		330	335
Glu Ala Ser Pro Glu Phe Arg Asp Leu Ser Phe Val Leu Thr Asp Asn				
	340		345	350
Gln Met Ile Leu Asp Asp Ser Glu Ala Leu Asp Leu Asp Asp Ile Asp				
	355		360	365
Asp Thr Asp Met Asn Asp Gln Val Val Glu Val Ala				
370		375		380

<210> 111
 <211> 103
 <212> PRT
 <213> Caenorhabditis elegans

<400> 111
 Asn Ile Asp Arg Glu Phe Asp Gln Lys Ala Cys Glu Ser Leu Val Lys
 1 5 10 15
 Lys Leu Lys Asp Lys Lys Asn Asp Leu Gln Asn Leu Ile Asp Val Val
 20 25 30
 Leu Ser Lys Gly Thr Lys Tyr Thr Gly Cys Ile Thr Ile Pro Arg Thr
 35 40 45
 Leu Asp Gly Arg Leu Gln Val His Gly Arg Lys Gly Phe Pro His Val
 50 55 60
 Val Tyr Gly Lys Leu Trp Arg Phe Asn Glu Met Thr Lys Asn Glu Thr

65 70 75 80
 Arg His Val Asp His Cys Lys His Ala Phe Glu Met Lys Ser Asp Met
 85 90 95
 Val Cys Val Asn Pro Tyr His
 100

<210> 112
 <211> 104
 <212> PRT
 <213> Homo sapiens

<400> 112
 Gly Gly Glu Ser Glu Thr Phe Ala Lys Arg Ala Ile Glu Ser Leu Val
 1 5 10 15
 Lys Lys Leu Lys Glu Lys Lys Asp Glu Leu Asp Ser Leu Ile Thr Ala
 20 25 30
 Ile Thr Thr Asn Gly Ala His Pro Ser Lys Cys Val Thr Ile Gln Arg
 35 40 45
 Thr Leu Asp Gly Arg Leu Gln Val Ala Gly Arg Lys Gly Phe Pro His
 50 55 60
 Val Ile Tyr Ala Arg Leu Trp Arg Trp Pro Asp Leu His Lys Asn Glu
 65 70 75 80
 Leu Lys His Val Lys Tyr Cys Gln Tyr Ala Phe Asp Leu Lys Cys Asp
 85 90 95
 Ser Val Cys Val Asn Pro Tyr His
 100

<210> 113
 <211> 205
 <212> PRT
 <213> Caenorhabditis elegans

<400> 113
 Ile Val Tyr Tyr Glu Lys Asn Leu Gln Ile Gly Glu Lys Lys Cys Ser
 1 5 10 15
 Arg Gly Asn Phe His Val Asp Gly Gly Phe Ile Cys Ser Glu Asn Arg
 20 25 30
 Tyr Ser Leu Gly Leu Glu Pro Asn Pro Ile Arg Glu Pro Val Ala Phe
 35 40 45
 Lys Val Arg Lys Ala Ile Val Asp Gly Ile Arg Phe Ser Tyr Lys Lys
 50 55 60
 Asp Gly Ser Val Trp Leu Gln Asn Arg Met Lys Tyr Pro Val Phe Val
 65 70 75 80
 Thr Ser Gly Tyr Leu Asp Glu Gln Ser Gly Gly Leu Lys Lys Asp Lys
 85 90 95
 Val His Lys Val Tyr Gly Cys Ala Ser Ile Lys Thr Phe Gly Phe Asn
 100 105 110
 Val Ser Lys Gln Ile Ile Arg Asp Ala Leu Leu Ser Lys Gln Met Ala
 115 120 125
 Thr Met Tyr Leu Gln Gly Lys Leu Thr Pro Met Asn Tyr Ile Tyr Glu
 130 135 140
 Lys Lys Thr Gln Glu Glu Leu Arg Arg Glu Ala Thr Arg Thr Thr Asp
 145 150 155 160
 Ser Leu Ala Lys Tyr Cys Cys Val Arg Val Ser Phe Cys Lys Gly Phe
 165 170 175
 Gly Glu Ala Tyr Pro Glu Arg Pro Ser Ile His Asp Cys Pro Val Trp

			180					185				190
Ile	Glu	Leu	Lys	Ile	Asn	Ile	Ala	Tyr	Asp	Phe	Met	Asp
		195					200					205

<210> 114
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 114
 Ile Ala Tyr Phe Glu Met Asp Val Gln Val Gly Glu Thr Phe Lys Val
 1 5 10 15
 Pro Ser Ser Cys Pro Ile Val Thr Val Asp Gly Tyr Val Asp Pro Ser
 20 25 30
 Gly Gly Asp Arg Phe Cys Leu Gly Gln Leu Ser Asn Val His Arg Thr
 35 40 45
 Glu Ala Ile Glu Arg Ala Arg Leu His Ile Gly Lys Gly Val Gln Leu
 50 55 60
 Glu Cys Lys Gly Glu Gly Asp Val Trp Val Arg Cys Leu Ser Asp His
 65 70 75 80
 Ala Val Phe Val Gln Ser Tyr Tyr Leu Asp Arg Glu Ala Gly Arg Ala
 85 90 95
 Pro Gly Asp Ala Val His Lys Ile Tyr Pro Ser Ala Tyr Ile Lys Val
 100 105 110
 Phe Asp Leu Arg Gln Cys His Arg Gln Met Gln Gln Gln Ala Ala Thr
 115 120 125
 Ala Gln Ala Ala Ala Ala Ala Gln Ala Ala Ala Val Ala Gly Asn Ile
 130 135 140
 Pro Gly Pro Gly Ser Val Gly Gly Ile Ala Pro Ala Ile Ser Leu Ser
 145 150 155 160
 Ala Ala Ala Gly Ile Gly Val Asp Asp Leu Arg Arg Leu Cys Ile Leu
 165 170 175
 Arg Met Ser Phe Val Lys Gly Trp Gly Pro Asp Tyr Pro Arg Gln Ser
 180 185 190
 Ile Lys Glu Thr Pro Cys Trp Ile Glu Ile His Leu His Arg Ala Leu
 195 200 205
 Gln Leu Leu Asp
 210

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